

**Listing of Claims:**

1-12. (Cancelled)

13. (New) A method for processing ingress messages for a state based application being executed by network processor, the state based application having a first state and a second state, the method comprising:

associating the first state of the state based application to a first set of message classes that are receivable by the state based application while the state based application is in the first state;

associating the second state of the state based application to a second set of message classes that are receivable by the state based application while the state based application is in the second state, the second set of message classes being distinct from the first set of message classes;

assigning the first set of message classes to a first semaphore;

assigning the second set of message classes to a second semaphore;

responsive to the state based application being in the first state, the method further includes

the state based application blocking the first semaphore; and

the first semaphore waking the state based application to process an ingress message responsive to the ingress message belonging to the first set of message classes, otherwise the ingress message is dropped; and

responsive to the state based application being in the second state, the method further includes

the state based application blocking the second semaphore; and

the second semaphore waking the state based application to process an ingress message responsive to the ingress message belonging to the second set of message classes, otherwise the ingress message is dropped.

14. (New) The method of claim 13, wherein the first set of message classes categorize ingress messages having a different priority relative to ingress messages categorized by the second set of message classes.

15. (New) The method of claim 13, wherein the first set of message classes categorize ingress messages having a different function relative to ingress messages categorized by the second set of message classes.

16. (New) A computer readable medium encoded with a computer program for processing ingress messages for a state based application being executed by network processor, the state based application having a first state and a second state, the computer program comprising computer executable code for:

associating the first state of the state based application to a first set of message classes that are receivable by the state based application while the state based application is in the first state;

associating the second state of the state based application to a second set of message classes that are receivable by the state based application while the state based application is in the second state, the second set of message classes being distinct from the first set of message classes;

assigning the first set of message classes to a first semaphore;

assigning the second set of message classes to a second semaphore;

responsive to the state based application being in the first state, the method further includes

the state based application blocking the first semaphore; and

the first semaphore waking the state based application to process an ingress message responsive to the ingress message belonging to the first set of message classes, otherwise the

ingress message is dropped; and  
responsive to the state based application being in the second state, the method further includes  
the state based application blocking the second semaphore; and  
the second semaphore waking the state based application to process an ingress  
message responsive to the ingress message belonging to the second set of message classes,  
otherwise the ingress message is dropped.

17. (New) The computer readable medium of claim 16, wherein the first set of message classes categorize ingress messages having a different priority relative to ingress messages categorized by the second set of message classes.

18. (New) The computer readable medium of claim 16, wherein the first set of message classes categorize ingress messages having a different function relative to ingress messages categorized by the second set of message classes.